
PreOrder to Order Integration Report

For 271 Test Generator

Arizona Corporation Commission



i n v e n t

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1.0 Executive Summary

1.1 Introduction

This report analyzed the ability of a CLEC to integrate PreOrder to Order transactions for the Qwest IMA-EDI system. Hewlett-Packard Consulting (HPC) prepared this PreOrder to Order Integration Report as requested by the Arizona Corporation Commission (ACC) staff, and later amended in the HPC Proposed Scope for Review of Qwest LSOG 5 Review & EDI Pre-Order to Order Integration Analysis (version 2.0) – 03/11/02. This analysis covered two major releases and a combination of five products and three activities. The first release of this report utilized Qwest Interconnect Charts (I-Charts) Release 7.0 and the Ordering and Billing Forum (OBF) Local Service Ordering Guidelines Version 3.0 (LSOG 3). The second release utilized Qwest I-Charts Release 9.0 and OBF LSOG 5. The PreOrder responses that were examined were those transactions required by Qwest prior to submitting the Orders for the products and activities previously mentioned. The analysis specifically examined a CLEC's ability to parse data elements from PreOrder queries to automatically populate a Local Service Request (LSR) without manipulation. **Note:** LSR and Order are used interchangeably throughout this report.

The nine PreOrder transaction responses reviewed for this report were as follows:

- Address Validation [LSOG 3 and LSOG 5]
- Appointment Scheduling [LSOG 3 and LSOG 5]
- Connecting Facility Assignment (CFA) [LSOG 3 and LSOG 5]
- Customer Service Record [LSOG 3 and LSOG 5]
- Facility Availability [LSOG 3 and LSOG 5]
- Service Availability [LSOG 3 and LSOG 5]
- Telephone Number (TN) Reservation [LSOG 3 and LSOG 5]
- Raw Loop Data [LSOG 5]
- Loop Qualification [LSOG 5]

The five products reviewed for this report were as follows:

- Plain Old Telephone Service (POTS) Resale
- Unbundled Network Elements-Platform (UNE-P)
- UNE Loop Service
- Loop Service with Number Portability
- Number Portability

The five products above were reviewed in conjunction with one or more of the three activities as follows:

- Conversion As Is
- Conversion As Specified
- New Install

HPC used a multi-step process to perform the necessary analysis. The initial step was to identify the Order data elements for the selected Product/Activity (i.e., Order) combinations that were the target of the analysis. This included a determination of the appropriate Qwest I-Charts to be used for the analysis. In addition, the appropriate PreOrder transactions were associated with each Order.

Second, HPC determined the Order data elements that are provided by Qwest (via the PreOrder responses) and those that are provided by the CLEC. For purposes of this analysis, any data provided by the CLEC's customer (i.e., the End User) was considered to be data provided by the CLEC. Additionally, the I-Charts were used to determine if the Order data elements were either required, conditional, optional, prohibited, or not required. At this point, those data elements that were prohibited or not required were excluded from the analysis.

Third, HPC mapped the PreOrder data elements to Order data elements and noted any data definition (i.e., form, format, content, usage, and meaning) issues that were identified during this step.

In the first release of the document (Qwest I-Charts Release 7.0 and LSOG 3) HPC determined:

- Qwest PreOrder data element field length is significantly larger than the length of an Order data element. However, HPC has not observed any instance where the length of a PreOrder data element's value exceeds the length of the Order data element.
- Order data element field types fell within the PreOrder data element field types (e.g., when a PreOrder data element was numeric then the corresponding Order data element was either numeric or alphanumeric).
- Two Order data elements, CFA and Account Number required manipulation of one or more PreOrder data elements.

HPC concluded that the data definitions (i.e., form, format, content, usage and meaning) between PreOrder and Order elements, excluding the exceptions noted above, do not require translation, or reconfiguration of the data elements when parsing PreOrder transactions into Order transactions. Therefore, HPC's assessment is that CLECs can utilize Qwest's EDI PreOrder transactions to automatically populate an Order with some data manipulation.

HPC observed that Qwest is meeting the LSOG 3 industry standard for Orders. Finally, Qwest should continue to follow OBF guidelines to see if there are fields that Qwest could populate to help the CLEC community in filling out Orders.

In the second release of the document (Qwest I-Charts Release 9.0 and LSOG 5) HPC determined:

- The Qwest PreOrder field length, provided in the PreOrder Chapters (3-9, 13 & 14), is often much larger than the Order field length (see Tables 4.25 through 4.33). If PreOrder transactions returned a value larger than the Order field would accept, some data manipulation would be required. However, in reviewing the Appendix A – Developer Worksheets, HPC observed that Qwest PreOrder field lengths are closely aligned to the Order field lengths with the exceptions summarized in Table 4.17 and details provided in Appendices M through U.
- Most Order field types matched the PreOrder field types. This comparison ensured that if a field type on the Order was numeric, that the corresponding PreOrder field that maps to it was also the same type (i.e., if the Order field type is numeric, then the PreOrder field type should also be numeric or alphanumeric.) HPC did observe some discrepancies between the PreOrder Chapters and the Appendix A – Developer Worksheets and/or the Order fields. For example, State was identified as being 2 alpha in Appendix A and ID 2/2 in Chapter 04 - Address Validation.
- Three Order data elements CFA, Account Number, and Street (CSRR-62) required manipulation of one or more PreOrder data elements.
- Qwest returns the Service Address fields for the Billing Section as concatenated STREET field on CSR (CSRR-62). If a separate Billing Address is required, then this concatenated Street (Address) field must be parsed into the appropriate Billing Address street fields on the LSR (EU-45a through EU-45g). Qwest does provide independent data for the following fields:
 - Room/Mail Stop (CSRR-64)
 - Floor (CSRR-63)
 - City (CSRR-65)
 - State (CSRR-66)
 - Zip (CSRR-67)

HPC concluded, for the second release, that the data definitions (i.e., form, format, content, usage and meaning) between PreOrder and Order elements, excluding the exceptions noted above, do not require translation, or reconfiguration of the data elements when integrating PreOrder transactions into Order transactions. In HPC's professional opinion, the exceptions noted above will not hinder the integration of PreOrder data elements into Orders. Therefore, HPC's assessment is that CLECs can



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utilize Qwest's EDI PreOrder transactions to automatically populate an Order with some data manipulation.

1.2 PreOrder Analysis

A review of the Qwest I-Chart Data Dictionary elements and Appendix A, PreOrder Developer Worksheets was performed to determine if there were inconsistencies in the documentation that would hinder a document-based EDI interface development effort. The review was concentrated on finding inconsistencies in field names, data types, business rules, valid values and cross-references between two or more fields. Spelling errors and other errors that did not fit into one of the previous categories were also captured.

HPC made 253 observations during the review of the Qwest I-Chart Data Dictionary elements and Appendix A, PreOrder Developer Worksheets. However, some observations occurred in every PreOrder Transaction.

The majority of the inconsistencies observed appear to be typographical errors. The presence of such seemingly minor issues subjected to the exacting requirements inherent in EDI, could present a CLEC many challenges. However, the issues noted in this section are not critical enough to prevent an established CLEC, with a professional EDI development team, from being successful in its effort to build a PreOrder to Order integration system.

1.3 CSR to LSR Parsing Analysis

This section of the analysis addresses the ability of a CLEC to parse a Qwest EDI PreOrder transaction, in the course of building an Order interface, which would automate the population of a CSR response into an LSR.

According to Webster's New World Dictionary the definition of parsing is to break a sentence down giving the form and function of each part. HPC defines the parsing of a CSR response transaction as being able to translate the Qwest CSR response transactions (based on Qwest documentation), and use the specified data elements to automatically populate the appropriate Order (LSR) forms. This process includes being able to understand the Qwest business rules and documentation such that logical decisions can be made based on the type of CSR response that is received from Qwest. For example, a CLEC needs to know that a CSR transaction response that contains a multiple match or an error message should not be moved to the Order fields.

HPC observed 41 CSR documentation issues that are listed in Tables 5.3 and 5.4. These issues can and should be discussed during regularly scheduled meetings between Qwest and the CLECs. (See the Qwest Implementation Guidelines – for Interconnect Mediated Access (IMA) – Version 9.0). It is HPC's experience that when issues or concerns about Qwest EDI documentation are communicated, Qwest responds to those issues/concerns in an effective and timely manner. HPC is convinced these problems associated with Qwest's EDI documentation are minimal, and can be overcome.

It is HPC's professional opinion, based upon its review of Qwest documentation, that a CSR to LSR parsing would be a very challenging and complex undertaking for a CLEC with an Information Technology team that was not experienced in EDI development. Other alternatives would be to contract the development of the EDI Interface through a Service Bureau or purchase a 3rd party solution from a vendor, such as Telcordia. There will be a number of issues that will have to be clarified by meetings with Qwest. However, a CLEC with the appropriate resources, funding, time and planning activities can build a CSR to LSR parsing interface.

1.4 LSOG 3 to LSOG 5 Comparison

An LSR is comprised of fields that must be provided by Qwest and by the CLEC/End User. The OBF standards define, on the average, less than 20% of the PreOrder fields that can be mapped to an LSR. OBF provides telecommunications industry standard guidelines that companies like Qwest should follow. Qwest provides 84% to 92.3% of the OBF defined PreOrder fields in LSOG 5 depending on the product.

Typically, the CLEC/End User will provide the majority of LSR entries, because they are specific to the customer or the services/products that the customer has requested. Therefore, the relatively low percentages presented in this section are not necessarily an indication of poor compliance to OBF standards by Qwest.

With this in mind, the comparative results show that the percentage of PreOrder response matches to both required and conditional data Order elements have increased from LSOG 3 to LSOG 5. The percent of PreOrder fields, to total LSR fields, provided by Qwest for LSOG 3 was 23.5%, whereas the percent obtained from the LSOG 5 analysis was 29.0%. Although that is an overall increase of 5.5%, it is a relative increase of 23.4%. HPC believes this is a positive trend that Qwest should continue to follow in future releases.

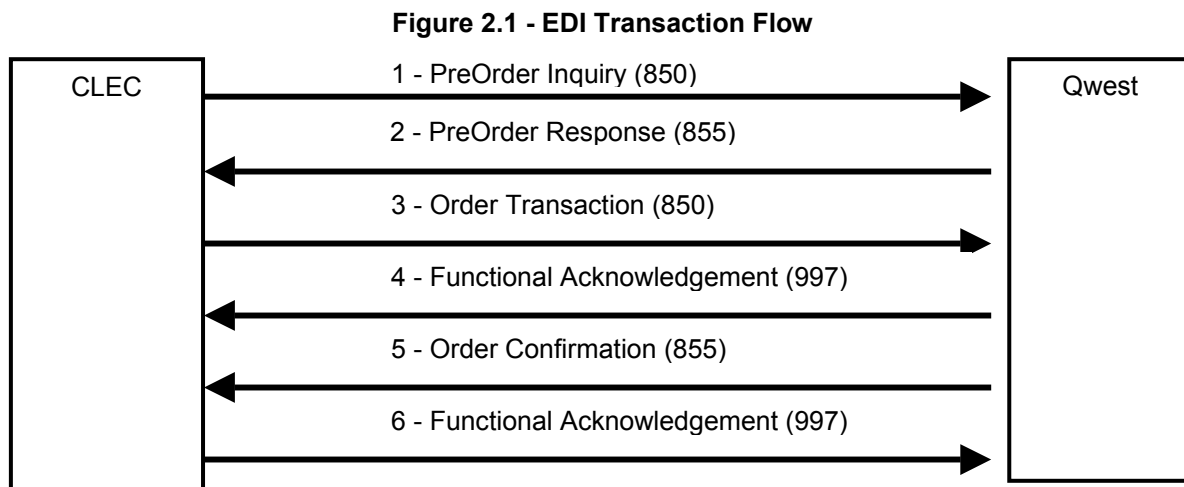
In HPC's opinion, Qwest's PreOrder to Order data element integration functionality is adherent to the LSOG 5 guidelines and the data definitions (i.e., form, format, content, usage, and meaning). The PreOrder and Order elements, excluding the exceptions previously noted, do not require translation or reconfiguration when integrating PreOrder transactions into Order. Therefore, it is HPC's opinion that CLECs can utilize Qwest's EDI PreOrder transactions to automatically populate an Order without data manipulation.

2.0 Background

Subsequent to the Qwest 271 Certification Testing effort that is outlined in Section 271 of the Telecommunications Act of 1996, HPC conducted an assessment of the level of mechanized integration between EDI PreOrder responses and Order transactions according to section 6.5.2.3 paragraph (f) of the TSD, version 2.8, dated January 26, 2001. Paragraph (f) of the TSD states:

“Do the data definitions (i.e., form, format, content, usage and meaning) between PreOrdering and ordering elements enable integration from PreOrder transactions into order transactions without requiring translation, or reconfiguration of the data elements.”

The EDI Transaction flow process and procedure was used by HPC to conduct the PreOrder to Order analysis as reflected in the above statement. Figure 2.1 shows the typical EDI Transaction flow process that provides the background information to understand the analysis approach that is described in the subsequent sections.



1. Competitive Local Exchange Carrier (CLEC) initiates and sends one or more outbound PreOrder inquiry transactions (850).
2. Qwest returns a PreOrder response (855) with information required for placing an Order.
3. CLEC initiates and sends an Order using the information returned on the (855) PreOrder response.
4. Qwest responds with an inbound Functional Acknowledgement (997).
5. Qwest returns an Order response (855) with confirming information based on the Order that was submitted.
6. CLEC confirms receipt of Qwest transactions with CLEC Functional Acknowledgement 997.

2.1 Purpose of Document

The purpose of this document is to describe the approach taken to perform the EDI PreOrder to Order analysis, a summary of that analysis and HPC's observations made during the analysis.

2.2 Audience

The intended audience for this document is the ACC and any other parties interested in the results of the Arizona test of Qwest's Operational Support Systems (OSS).

2.3 Document Structure

The following appendices, as described in Table 2.1, are provided as part of the PreOrder to Order Integration Report.

Table 2.1 - Document Structure

Appendix	Document Title	Document Description
Appendix A	PreOrder to Order Project Schedule	MS Project plan detailing the schedule for the PreOrder to Order assessment (Applies to LSOG 3 only)
Appendix B	POTS Resale Conversion As Is	Excel Spreadsheet listing Order and PreOrder field names and data types for POTS Resale Conversion As Is
Appendix C	POTS Resale Conversion As Specified	Excel Spreadsheet listing Order and PreOrder field names and data types for POTS Resale Conversion As Specified
Appendix D	POTS Resale New Install	Excel Spreadsheet listing Order and PreOrder field names and data types for POTS Resale New Install
Appendix E	UNE Loop Service Conversion As Specified	Excel Spreadsheet listing Order and PreOrder field names and data types for UNE Loop Service Conversion As Specified
Appendix F	UNE Loop Service New Install	Excel Spreadsheet listing Order and PreOrder field names and data types for UNE Loop Service New Install
Appendix G	UNE-P New Installation	Excel Spreadsheet listing Order and PreOrder field names and data types for UNE-P New Installation
Appendix H	UNE-P Conversion as Specified with DL	Excel Spreadsheet listing Order and PreOrder field names and data types for UNE-P Conversion as Specified with DL
Appendix I	Number Portability Conversion as Specified	Excel Spreadsheet listing Order and PreOrder field names and data types for Number Portability Conversion as Specified
Appendix J	Loop Service with NP Conversion as Specified	Excel Spreadsheet listing Order and PreOrder field names and data types for Loop Service with NP Conversion as Specified
Appendix K	Job Aid	HPC Job Aid (Applies to LSOG 3 only)
Appendix L	Summary Spreadsheets	Spreadsheets that summarize the data provided in the PreOrder to Order Test Summary.

Appendix	Document Title	Document Description
Appendix M	Customer Service Record Transaction Cycle	Excel Spreadsheet evaluating Release 9.0 Qwest I-Chart Chapter 03 and Appendix A
Appendix N	Address Validation Transaction Cycle	Excel Spreadsheet evaluating Release 9.0 Qwest I-Chart Chapter 04 and Appendix A
Appendix O	Facility Availability Query	Excel Spreadsheet evaluating Release 9.0 Qwest I-Chart Chapter 05 and Appendix A
Appendix P	Service Availability Transaction Cycle	Excel Spreadsheet evaluating Release 9.0 Qwest I-Chart Chapter 06 and Appendix A
Appendix Q	CFA Validation Transaction Cycle	Excel Spreadsheet evaluating Release 9.0 Qwest I-Chart Chapter 07 and Appendix A
Appendix R	Appointment Reservation Transaction Cycle	Excel Spreadsheet evaluating Release 9.0 Qwest I-Chart Chapter 08 and Appendix A
Appendix S	Telephone Number (TN) Reservation Transaction Cycle	Excel Spreadsheet evaluating Release 9.0 Qwest I-Chart Chapter 09 and Appendix A
Appendix T	Raw Loop Data	Excel Spreadsheet evaluating Release 9.0 Qwest I-Chart Chapter 13 and Appendix A
Appendix U	Loop Qualification	Excel Spreadsheet evaluating Release 9.0 Qwest I-Chart Chapter 14 and Appendix A
Appendix V	LSOG 3 & 5 Tables	Tables listing data elements, summary data, and observation data for PreOrder to Order transactions for LSOG 3 & 5

2.4 References

- Master Plan for Testing Qwest's Operations Support System in Arizona (version 4.1) – 02/02/01HPC Statement of Work
- Test Standards Document (version 2.8) – 01/26/01

LSOG 3 Analysis

- Ordering and Billing Forum Local Service Ordering Guidelines Version 3.0 (LSOG 3)
- Qwest Developer Work Sheets (I-Charts Release) Version 7.0. The Qwest 7.0 I-Chart information was found at the following web site:
<http://www.qwest.com/disclosures/netdisclosure409.html>
 - Chapter 3 - Customer Service Record Transaction Cycle – Updated 10/15/01
 - Chapter 4 - Address Validation Transaction Cycle – Updated 7/13/01
 - Chapter 5 - Check Facility Availability Query
 - Chapter 6 - Service Availability Transaction Cycle
 - Chapter 7 - CFA Validation Transaction Cycle
 - Chapter 8 - Appointment Reservation Transaction Cycle – Updated 7/13/01
 - Chapter 9 - Telephone Number (TN) Assignment Transaction Cycle – Updated 9/14/01
 - Chapter 14 - POTS Resale Order Submittal – Updated 10/01/01
 - Chapter 16 - Local Number Portability Transaction Cycle – Updated 10/01/01
 - Chapter 18 - Unbundled Loop Order Submittal – Updated 10/01/01
 - Chapter 19 - Unbundled Loop with NP Order Submittal – Updated 10/01/01
 - Chapter 41 - UNE-P POTS – Updated 10/01/01
 - Appendix B - Developer Worksheets - Order - EUI and LSR – Updated 10/15/01
 - Appendix C - Developer Worksheets - Order Other – Updated 10/15/01

LSOG 5 Analysis

- HPC Proposed Scope for Review of Qwest LSOG 5 Review & EDI PreOrder to Order Integration Analysis (version 2.0) – 03/11/02
- Ordering and Billing Forum Local Service Ordering Guidelines Version 5.0 (LSOG 5)
- Qwest Implementation Guidelines – for Interconnect Mediated Access (IMA) – Version 9.0
- Qwest Developer Work Sheets (I-Charts Release) Version 9.0. The Qwest 9.0 I-Chart information was found at the following web site:
 - <http://www.qwest.com/disclosures/netdisclosure409.html>.
 - Chapter 03 – Customer Service Record Transaction Cycle
 - Chapter 04 – Address Validation Transaction Cycle
 - Chapter 05 – Facility Availability Query
 - Chapter 06 – Service Availability Transaction Cycle
 - Chapter 07 – CFA Validation Transaction Cycle
 - Chapter 08 – Appointment Reservation Transaction Cycle
 - Chapter 09 – Telephone Number (TN) Reservation Transaction Cycle
 - Chapter 13 – Raw Loop Data
 - Chapter 14 – Loop Qualification
 - Chapter 15 – POTS Resale Order Submittal
 - Chapter 17 – Local Number Portability Transaction Cycle
 - Chapter 19 – Unbundled Loop Order Submittal
 - Chapter 20 – Unbundled Loop with NP Order Submittal
 - Chapter 41 – UNE POTS (P or STAR)
 - Appendix A – Developer Worksheets – PreOrder
 - Appendix B –Developer Worksheets – Order – EU and LSR
 - Appendix C –Developer Worksheets – Order Other

Referenced But Not Used In Analysis

- The following Qwest documentation was made available after HPC had started the analysis of the Qwest Developer Work Sheets (I-Charts Release) Version 9.0. HPC's Scope of Work, dated March 11, 2002, would not include any updates to the documents once the analysis had been started. Therefore, the following versions of these documents were not included in the analysis:
 - 9.0 EDI Disclosure Addendum Version 1 – Updated 3/11/02
 - Chapter 03 Customer Service Record Transaction Cycle Updated 3/11/02
 - Chapter 07 CFA Validation Transaction Cycle Updated 3/11/02
 - Chapter 08 Appointment Reservation Transaction Cycle Updated 3/11/02
 - Chapter 09 Telephone Number (TN) Reservation Transaction Cycle Updated 3/11/02
 - Chapter 13 Raw Loop Data Updated 3/11/02
 - Chapter 15 POTS Resale Order Submittal Updated 3/11/02
 - Chapter 19 Unbundled Loop Order Submittal Updated 3/11/02
 - Chapter 20 Unbundled Loop with NP Order Submittal Updated 3/11/02
 - Chapter 41 UNE POTS (P or STAR) Updated 3/11/02
 - Appendix A Developer Worksheets PreOrder Updated 3/11/02
 - Appendix B Developer Worksheets Order EU and LSR Updated 3/11/02
 - Appendix C Developer Worksheets Order Other Updated 3/11/02

3.0 Scope

The scope of this document is to provide an in-depth analysis of the relationship between EDI data elements contained in specific PreOrder responses received from, and Order (LSR) transactions submitted to, Qwest's OSS (as applied to Qwest I-Charts Release 7.0 and LSOG 3 and Qwest I-Charts Release 9.0 and LSOG 5). As documented in the HPC Proposed Scope for Review of Qwest LSOG 5 Review & EDI Pre-Order to Order Integration Analysis (version 2.0) – 03/11/02, the analysis involved a combination of five products and three activities. The PreOrder responses that were examined were those transactions required by Qwest prior to submitting the Orders for the product and activities mentioned previously. The analysis specifically examined a CLEC's ability to use data elements, received from Qwest on the associated PreOrder responses, on an Order (LSR) without manipulation. Additionally, the analysis reviewed which Order (LSR) data element fields were required, conditional, or optional; as well as, the number of these data element fields compared to the total number of fields needed to submit an Order (LSR).

The analysis of the Qwest I-Charts Release 9.0 and LSOG 5 also took into consideration if a CLEC can build an EDI PreOrder to Order interface to automate the population of a CSR response into an LSR based on Qwest's documentation. In addition, the LSOG 5 analysis was then compared to the results from the previous LSOG 3 analysis.

Finally, this document provides observations gathered from the analysis that was performed. These observations are presented in an objective manner supported by practical order processing experience.

3.1 Common Acronyms

Table 3.1 lists the acronyms that are used throughout this document.

Table 3.1 - Common Acronyms

Acronym	Definition
ACC	Arizona Corporation Commission
CFA	Connecting Facility Assignment
CLEC	Competitive Local Exchange Carrier (or Co-Provider)
CSR	Customer Service Record
EDI	Electronic Data Interchange
HPC	Hewlett-Packard Consulting
I-Chart	Interconnect Chart
ILEC	Incumbent Local Exchange Carrier
ISC	Interconnect Service Center
LSOG	Local Service Ordering Guidelines
LSR	Local Service Request
OBF	Ordering and Billing Forum
OSS	Operational Support Systems
MTP	Master Test Plan
NC	Network Channel
NP	Number Portability
TN	Telephone Number

Acronym	Definition
TOS	Type of Service
TSD	Test Standards Document
UNE Loop	Unbundled Network Element Loop
UNE-P	Unbundled Network Element - Platform

4.0 Analysis Approach

This section details the steps that HPC took to determine if translation or reconfiguration of data elements between PreOrder transactions and an Order were required on the part of the CLEC prior to Order submission. The analysis is presented in two parts. The first is the analysis of the Qwest I-Charts Release 7.0 and LSOG 3. The second is the analysis of the Qwest I-Charts Release 9.0 and LSOG 5.

4.1 LSOG 3 Analysis

This section details the steps that HPC took to determine if translation or reconfiguration of data elements between PreOrder transactions and an Order were required on the part of the CLEC prior to Order submission based on the Qwest I-Charts Release 7.0 and LSOG 3. The analysis begins with the documentation of the Product/Activities that were to be analyzed and concludes with Tables 4.7 – 4.15 which present the results of the PreOrder to Order data element mappings for each of the Product/Activities.

The initial step was to identify the Product/Activities to be analyzed and the appropriate Qwest I-Chart to be used in the analysis. Table 4.1 lists the Product/Activities (i.e., hereafter referred to as an Order) that were identified for this study and the corresponding Qwest I-Chart for the Product/Activities.

Table 4.1 – Product/Activities [LSOG 3]

Product/Activity	Qwest I-Chart
POTS Resale Conversion As Is	Chapter 14
POTS Resale Conversion As Specified	Chapter 14
POTS Resale New Install	Chapter 14
UNE Loop Service Conversion As Specified	Chapter 18
UNE Loop Service New Install	Chapter 18
UNE-P New Install	Chapter 41
UNE-P Conversion as Specified with DL	Chapter 41
Number Portability Conversion as Specified	Chapter 16
Loop Service with NP Conversion as Specified	Chapter 19

Note: A product is a telecommunications class of service offering. For example, POTS (Plain Old Telephone Service) Resale, UNE-P (Unbundled Network Element-Platform) or UNE Loop (Unbundled Network Element Loop). A Product/Activity describes the type of action that is being performed on a product. For example, New Install, Move, Change, Conversion as Specified, etc.

An order is comprised of data elements. A data element is either required, conditional, optional, not required, or prohibited. According to LSOG 3, “Required” is defined as a field that must be populated; “Optional” is defined as a field that may or may not be populated. “Prohibited” is a field that must not be populated; and “Conditional” is defined as a field that is dependent upon the relationship to another entry as specified in the usage statement and is also dependent upon the presence, absence or combination of other data entries. Individual providers may require conditional fields. The conditionality of a data element is based on a set of Qwest business rules. HPC took the Qwest business rules at face value (specific scenarios were not evaluated in this analysis) and did not attempt to determine if the conditionality of a data element was to change based on the population (or lack thereof) of another data element. Qwest, the CLEC, or the End User supplies an Order’s data element value.

The submission of an Order requires one or more PreOrder transactions. According to LSOG 3, PreOrder identifies those functions that may have to occur prior to the ordering of service and includes the following practices: PreOrder process, Customer Service Inquiry, and Loss Alert/Transition Information transactions. Qwest's OSS, specifically IMA-EDI, determines which PreOrder transactions are necessary for the submission of an Order. A variety of resources are provided by Qwest to assist the CLEC in determining which PreOrder transactions are needed, based on the type of Order being submitted. Among those ILEC (Incumbent Local Exchange Carrier) resources are training classes, published user and reference guides, Help Desk support, Interconnect Charts, and Web-based training. For the purposes of this study, HPC utilized locally developed job aids and HPC's interpretation of Qwest's business rules to determine the PreOrder transactions required for each Order.

Table 4.2 provides the required PreOrder transactions for each Order.

Table 4.2 - PreOrder to Order Transactions Mapping [LSOG 3]

Order	Address Validation	Appointment Scheduling ¹	Customer Service Record Query	Facility Availability	Service Availability	(CFA) Connecting Facility Assignment	Telephone Number (TN) Reservation ²
POTS Resale Conversion As Is	X		X				
POTS Resale Conversion as Specified	X	X	X	X	X		X
POTS Resale New Install	X	X		X	X		X
UNE Loop Service Conversion As Specified	X		X	X		X	
UNE Loop Service New Install	X			X		X	
UNE-P New Install	X	X		X	X		X
UNE-P Conversion As Specified with DL	X	X	X	X	X		X
Number Portability Conversion As Specified	X		X				
Loop Service with NP Conversion As Specified	X		X	X		X	

¹ Appointment Scheduling includes both Appointment Availability and Appointment Selection transactions.

² Telephone Number (TN) Reservation includes both TN Availability and TN Selections transactions.

Note: PreOrder transactions are preliminary queries submitted to Qwest's OSS to obtain or validate data that is required to complete the Order fields prior to submission to Qwest. Positive validation of data is necessary for the successful submission of the Order. This validation is accomplished via a PreOrder transaction. Some examples of information specific to the End User could include inquiries to validate the service address name, number, city and zip code information, or the billing name and address on the Customer Service Record. Examples of Qwest-specific information include: a valid appointment date, an available telephone number and a valid Connecting Facility Assignment (CFA). Examples of End User information (for a New Install) include: billing name, service address, and billing address. Examples of CLEC-specific information include: Purchase Order Number and Customer Carrier Name Abbreviation.

The next step in the analysis was to determine the number of data elements required for each Order. Table 4.3 lists the results of this step.

Table 4.3 - Number of Order Data Elements [LSOG 3]

Order	Order Data Elements
POTS Resale Conversion As Is	205
POTS Resale Conversion As Specified	205
POTS Resale New Install	205
UNE Loop Service Conversion As Specified	115
UNE Loop Service New Install	115
UNE-P New Install	207
UNE-P Conversion as Specified with DL	207
Number Portability Conversion as Specified	87
Loop Service with NP Conversion as Specified	128

HPC made an initial determination of the conditionality (required, conditional, optional, not required, or prohibited) of each Order's data element based upon the information in Qwest's I-Charts. This data was then passed onto Qwest to verify the conditionality of each Order's data elements. Qwest provided some minor corrections to the information that HPC then incorporated into its working documents.

Table 4.4 lists by Order the number of data elements that are Required, Conditional, Optional or Other (Not Required or Prohibited).

Table 4.4 - Number of Order Data Elements by Conditionality [LSOG 3]

Order	Required	Conditional	Optional	Other	Total
POTS Resale Conversion As Is	19	23	32	131	205
POTS Resale Conversion As Specified	28	91	67	19	205
POTS Resale New Install	32	71	59	43	205
UNE Loop Service Conversion As Specified	30	45	39	1	115
UNE Loop Service New Install	29	27	29	30	115
UNE-P New Install	32	72	61	42	207
UNE-P Conversion as Specified with DL	28	92	69	18	207
Number Portability Conversion as Specified	26	30	31	0	87
Loop Service with NP Conversion as Specified	30	57	41	0	128

HPC then identified for each Order's data elements whether the values had to be provided by Qwest (i.e., Qwest Provided column) or the CLEC (i.e., CLEC Provided column). Both the Qwest Provided and CLEC Provided columns account for data elements that are Required, Conditional, or Optional. The Other column indicates those data elements that are Not Required or Prohibited and therefore would not be expected to have a value. Table 4.5 lists the results of this step.

Table 4.5 - Number of Order Data Elements by Data Provider [LSOG 3]

Order	Qwest Provided	CLEC Provided	Other	Total
POTS Resale Conversion As Is	34	40	131	205
POTS Resale Conversion As Specified	55	131	19	205
POTS Resale New Install	24	138	43	205
UNE Loop Service Conversion As Specified	36	78	1	115
UNE Loop Service New Install	19	66	30	115
UNE-P New Install	24	141	42	207
UNE-P Conversion as Specified with DL	56	133	18	207
Number Portability Conversion as Specified	35	52	0	87
Loop Service with NP Conversion as Specified	37	91	0	128

Note: Data that is provided by the CLEC may be entered on a PreOrder transaction for validation purposes (e.g., service address). So even though a PreOrder data element may map to an Order element, the ultimate responsibility is incumbent upon the CLEC to obtain the initial data.

The next step in the analysis was to merge the results of the Data Provider analysis and the Conditionality analysis into one table. Table 4.6 lists the results of this merge.

Table 4.6 - Number of Order Data Elements by Conditionality and Data Provider [LSOG 3]

Order	Required		Conditional		Optional			
	Qwest	CLEC	Qwest	CLEC	Qwest	CLEC	Other	Total
POTS Resale Conversion As Is	6	13	11	12	17	15	131	205
POTS Resale Conversion As Specified	8	20	19	72	28	39	19	205
POTS Resale New Install	5	27	10	61	9	50	43	205
UNE Loop Service Conversion As Specified	7	23	12	33	17	22	1	115
UNE Loop Service New Install	5	24	5	22	9	20	30	115
UNE-P New Install	5	27	10	62	9	52	42	207
UNE-P Conversion as Specified with DL	8	20	19	73	29	40	18	207
Number Portability Conversion as Specified	7	19	11	19	17	14	0	87
Loop Service with NP Conversion as Specified	7	23	13	44	17	24	0	128

Note: The results presented in Table 4.6 include duplicate Order data elements that appear on an Order. These duplicates were identified and documented in Appendix L – Summary Spread Sheets – Duplicates.

The final step in the analysis was to map the PreOrder data elements to their respective Order data elements. **Note:** duplicate Order data elements were removed in this step. The results of these mappings are provided in Tables 4.7 through 4.15, located in Appendix V of this document.

4.2 LSOG 5 Analysis

This section details the steps that HPC took to determine if translation or reconfiguration of data elements between PreOrder transactions and an Order were required on the part of the CLEC prior to Order submission based on the Qwest I-Charts Release 9.0 and LSOG 5. The analysis begins with a review of the PreOrder transactions and continues with the documentation of the Product/Activities that were analyzed. The review of products/activities is followed by Tables 4.25 – 4.33 that present the results of the PreOrder to Order data element mappings for each of the Product/Activities and concludes with the CSR to LSR parsing analysis.

This section will include a number of data field names that will be documented in all capital letters. The definition of those field names will not be provided in this analysis, as the inclusion of the data field definitions would significantly increase the size of this report.

4.2.1 PreOrder Analysis

Table 4.16 lists the PreOrder Transactions that were identified for this study and the corresponding Qwest I-Chart for the PreOrder Transaction.

Table 4.16 - PreOrder Transactions [LSOG 5]

PreOrder Transaction	Qwest I-Chart
Customer Service Record Transaction Cycle	Chapter 03
Address Validation Transaction Cycle	Chapter 04
Facility Availability Query	Chapter 05
Service Availability Transaction Cycle	Chapter 06
CFA Validation Transaction Cycle	Chapter 07
Appointment Reservation Transaction Cycle	Chapter 08
Telephone Number (TN) Reservation Transaction Cycle	Chapter 09
Raw Loop Data	Chapter 13
Loop Qualification	Chapter 14

A review of the Qwest I-Chart Data Dictionary elements and Appendix A, PreOrder Developer Worksheets was performed to determine if there were inconsistencies in the documentation that would hinder a document-based EDI interface development effort. The review was concentrated on finding inconsistencies in field names, data types, business rules, valid values and cross-references between two or more fields. Spelling errors and other errors that did not fit into one of the previous categories were also captured.

Table 4.17 summarizes the results of this review. The supporting details for Table 4.17 are contained in Appendices M through U. The column descriptions for Table 4.17 are as follows:

- **PreOrder Transaction** – Name of the PreOrder Transaction being evaluated.
- **PreOrder Query/Response** – Acronym of the PreOrder Query or Response
- **Inconsistent Field Name** – Inconsistent use of the field name between Appendix A and PreOrder. Includes misspellings in the field name that would cause this condition.
- **Inconsistent Data Type** – Inconsistent field data type or length between Appendix A and PreOrder.
- **Inconsistent Business Rule** – This would include a business rule that was dependent on a specific value in another field, and the specific value was not found in the list of valid values for the referenced field.

- **Inconsistent Cross-Reference** – This includes fields in PreOrder that are not documented in Appendix A.
- **Spelling** – Misspelled words or typos in columns other than field names.
- **Inconsistent Valid Values** – Missing valid values or unclear list of valid values.
- **Other** – Any other miscellaneous anomalies that cannot be captured in another category.
- **Total Observations** – Total number of observations made for the PreOrder Transaction.

Table 4.17 - PreOrder Transaction Observations [LSOG 5]

PreOrder Transaction	PreOrder Query/Response	Inconsistent Field Name	Inconsistent Data Type	Inconsistent Business Rule	Inconsistent Cross-Reference	Spelling	Inconsistent Valid Values	Other	Total Observations
Customer Service Record Transaction Cycle	CSRQ	0	11	1	0	0	0	0	12
	CSRR	0	16	1	0	0	1	11	29
Address Validation Transaction Cycle	AVQ	0	4	4	0	0	3	4	15
	AVR	0	13	5	0	0	10	2	30
Facility Availability Query	FAQ	0	7	3	0	0	5	2	17
	FAR	0	9	1	0	0	1	0	11
Service Availability Transaction Cycle	SAQ	0	1	1	0	0	3	0	5
	SAR	0	6	1	0	0	0	0	7
CFA Validation Transaction Cycle	CFAQ	0	3	1	0	0	0	0	4
	CFAR	0	10	1	3	0	0	0	14
Appointment Reservation Transaction Cycle	AAQ	0	2	2	1	0	0	0	5
	AAR	0	5	2	1	0	0	0	8
	ASQ	0	3	3	0	0	0	0	6
	ASR	0	4	1	0	0	0	0	5
Telephone Number (TN) Reservation Transaction Cycle	TNAQ	1	4	4	0	0	10	2	21
	TNAR	0	1	1	0	0	3	2	7
	TNSQ	0	1	1	0	0	0	0	2
	TNSR	0	1	1	0	0	1	0	3
Raw Loop Data	RLDQ	0	14	1	0	0	0	0	15
	RLDR	0	11	1	0	0	0	0	12
Loop Qualification	LQQ	0	13	4	0	0	0	0	17
	LQR	0	7	1	0	0	0	0	8
Total Observations		1	147	41	5	0	37	23	253

Other generic observations that were noted during the review are listed in Table 4.18.

Table 4.18 - Appendix A Observations [LSOG 5]

Issue	Page	Description	Document
Missing Legends for Columns	All	There are no legends for any of the columns.	Appendix A
R/C/O column missing /N	Varied	The value N appears in some instances	Appendix A
Unclear Conditionality in Field Name column Section headers. For example, the Billing section in CSRR states <i>"This section is present only if the Billing Section is present on the CSR and if RESPONSE = G or if RESPONSE = M and MIXTYPE Type = I or T."</i>	Varied	Is the conditionality clause (RESPONSE = G) or (RESPONSE = M and MIXTYPE = I or T) Or (RESPONSE = G or RESPONSE = M) and MIXTYPE = I or T	Appendix A

As noted in table 4.17, there were 253 observations made during the review of the Qwest I-Chart Data Dictionary elements and Appendix A, PreOrder Developer Worksheets. However, some observations occurred in every PreOrder Transaction. For example, the following observations with regards to the D/TSENT field were made:

- In Appendix A, A/N is specified even though only numeric characters are valid.
- Time is specified as HHMM in Chapter 04 and HHMinMin in Appendix A. Appendix A also states time is in Military Time and Chapter 04 states time is based on a 24 hour clock.

These observations account for 44 of the noted observations. While the above observations may seem trivial it cannot be assumed that a developer would know that Military Time is based on a 24-hour clock or that date and time are numerical in nature and not alphanumeric. The use of an alphanumeric field to store numeric data could also induce sorting and comparison issues.

HPC found three occurrences of Inconsistent Field Names - NTNUM, D/TSENT, and NSTN.

- In the TNAQ Transaction, the field name NTNUM (TNAQ-42b), Chapter 09 (Telephone Number (TN) Reservation Transaction Cycle) - Data Dictionary section, was referenced as NTNYM.
- The D/TSENT field on page 23 in Chapter 03 – Customer Service Record Transaction Cycle, was referenced as D/T SENT.
- In Chapter 09 – Telephone Number (TN) Assignment page 112, Mixed section of the TNSR response, the Field NSTN is referenced as Non-Selected Telephone Number in Appendix A. However, the NSTN for the POTS Resale order (Chapter 15, pages 147 & 276) defines NSTN as Non Standard Telephone Number.

An example of an Inconsistent Data Type can be found in the AVQ transaction. In this case the fields LD1 (AVQ-17), LD2 (AVQ-19), and LD3 (AVQ-21) were observed to have a data type of 4 a/n (alphanumeric) in Appendix A and a data type of ID 2/2 in Chapter 04.

An Inconsistent Business Rule example is CALA (AVQ-34) that states, in Appendix A, "The CITY, STATE and ZIP or CALA must be ..." is misleading since there is a condition where both ZIP and CALA must be populated. This condition occurs when a ZIP crosses multiple CALAs.

In the AAQ transaction, the REQNUM (AAQ-29) field is an example of an Invalid Cross-Reference. The observation made was “The valid value is listed as 1-99, however, the cross-reference to WLINUM has a range of valid values from 0-99.”

In the FAQ transaction, the QLR (FAQ-8) field is an example of an Inconsistent Valid Value. The observation made was “the valid values do not include zero which is a value that is present when SCATEG = U.”

The majority of the inconsistencies observed appear to be typographical errors. However, the presence of such seemingly minor issues subjected to the exacting requirements inherent in EDI, could present a CLEC many challenges. However, the issues noted in this section are not critical enough to prevent an established CLEC, with a professional EDI development team, from being successful in its effort of building a PreOrder to Order integration system.

4.2.2 PreOrder to Order Analysis

The initial step of this analysis was to identify the Product/Activities to be reviewed and the appropriate Qwest I-Chart to be used in the analysis. Table 4.19 lists the Product/Activities that were identified in the HPC Proposed Scope for Review of Qwest LSOG 5 Review & EDI Pre-Order to Order Integration Analysis (version 2.0) – 03/11/02 and the corresponding Qwest I-Chart for the Product/Activity.

Table 4.19 – Product/Activities [LSOG 5]

Product/Activity	Qwest I-Chart
POTS Resale Conversion As Is	Chapter 15
POTS Resale Conversion As Specified	Chapter 15
POTS Resale New Install	Chapter 15
UNE Loop Service Conversion As Specified	Chapter 19
UNE Loop Service New Install	Chapter 19
UNE-P New Install	Chapter 41
UNE-P Conversion as Specified with DL	Chapter 41
Number Portability Conversion as Specified	Chapter 17
Loop Service with NP Conversion as Specified	Chapter 20

Note: A product is a telecommunications class of service offering. For example, POTS (Plain Old Telephone Service) Resale, UNE-P (Unbundled Network Element-Platform) or UNE Loop (Unbundled Network Element Loop). A Product/Activity describes the type of action that is being performed on a product. For example, New Install, Move, Change, Conversion as Specified, etc.

An order is comprised of data elements. A data element is either required, conditional, optional, not required, not applicable, or prohibited. According to LSOG 5, “Required” is defined as a field that must be populated; “Optional” is defined as a field that may or may not be populated. “Prohibited” is a field that must not be populated; and “Conditional” is defined as a field that is dependent upon the relationship to another entry as specified in the usage statement and is also dependent upon the presence, absence or combination of other data entries. Individual providers may require conditional fields. The conditionality of a data element is based on a set of Qwest business rules. HPC took the Qwest business rules at face value (specific scenarios were not evaluated in this analysis) and did not attempt to determine if the conditionality of a data element were to change based on the population (or lack thereof) of another data element. Finally, Qwest, CLEC, or the End User supplies an Order data element’s value.

The submission of an Order requires two or more PreOrder transactions. According to LSOG 5, PreOrder identifies those functions that may have to occur prior to the ordering of service and includes the following practices: PreOrder process, Customer Service Inquiry, and Loss Alert/Transition Information transactions. Qwest's OSS, specifically IMA-EDI, determines which PreOrder transactions are necessary for the submission of an Order. A variety of resources are provided by Qwest to assist the CLEC in determining which PreOrder transactions are needed, based on the type of Order being submitted. Among those ILEC (Incumbent Local Exchange Carrier) resources are training classes, published user and reference guides, Help Desk support, Interconnect Charts, and Web-based training. For the purposes of this study, HPC utilized locally developed job aids and HPC's interpretation of Qwest's business rules to determine the PreOrder transactions required for each Order.

Table 4.20 provides the required PreOrder transactions for each Order.

Table 4.20 - PreOrder to Order Transactions Mapping [LSOG 5]

Order	Address Validation	Appointment Scheduling ¹	Customer Service Record Query	Facility Availability	Service Availability	(CFA) Connecting Facility Assignment	Telephone Number (TN) Reservation ²	Raw Loop Data	Loop Qualification
POTS Resale Conversion As Is	X		X						
POTS Resale Conversion as Specified	X	X	X	X	X		X		
POTS Resale New Install	X	X		X	X		X		
UNE Loop Service Conversion As Specified	X	X	X	X		X		X	X
UNE Loop Service New Install	X	X		X		X		X	X
UNE-P New Install	X	X		X	X		X		
UNE-P Conversion As Specified with DL	X	X	X	X	X		X		
Number Portability Conversion As Specified	X		X						
Loop Service with NP Conversion As Specified	X	X	X	X		X		X	X

¹ Appointment Scheduling includes both Appointment Availability and Appointment Selection transactions.

² Telephone Number (TN) Reservation includes both TN Availability and TN Selections transactions.

Note: PreOrder transactions are preliminary queries submitted to Qwest's OSS to obtain or validate data that is required to complete the Order fields prior to submission to Qwest. Positive validation of data is necessary for the successful submission of the Order. This validation is accomplished via a PreOrder transaction. Some examples of information specific to the End User could include inquiries to validate the service address name, number, city and zip code information, or the billing name and address on the Customer Service Record. Examples of Qwest-specific information include: a valid appointment date, an available telephone number and a valid Connecting Facility Assignment (CFA). Examples of End User information (for a New Install) include: billing name, service address, and billing address. Examples of CLEC-specific information include: Purchase Order Number and Customer Carrier Name Abbreviation.

The next step in the analysis was to determine the number of data elements required for each Order. Table 4.21 lists the results of this step.

Table 4.21 - Number of Order Data Elements [LSOG 5]

Order	Order Data Elements
POTS Resale Conversion As Is	208
POTS Resale Conversion As Specified	212
POTS Resale New Install	212
UNE Loop Service Conversion As Specified	121
UNE Loop Service New Install	121
UNE-P New Install	212
UNE-P Conversion as Specified with DL	212
Number Portability Conversion as Specified	91
Loop Service with NP Conversion as Specified	134

HPC made an initial determination of the conditionality (Required, Conditional, Optional, Not Required, or Prohibited) of each Order's data elements based upon the information in Qwest's I-Charts. This data was then passed onto Qwest to verify the conditionality of each Order's data elements. Qwest provided some minor corrections to the information that HPC then incorporated into its working documents.

Table 4.22 lists by Order the number of data elements that are Required, Conditional, Optional or Other (Not Required, Prohibited, or Not Applicable).

Table 4.22 - Number of Order Data Elements by Conditionality [LSOG 5]

Order	Required	Conditional	Optional	Other	Total
POTS Resale Conversion As Is	19	28	29	132	208
POTS Resale Conversion As Specified	29	97	68	18	212
POTS Resale New Install	34	75	60	43	212
UNE Loop Service Conversion As Specified	30	52	37	2	121
UNE Loop Service New Install	30	33	27	31	121
UNE-P New Install	33	76	60	43	212
UNE-P Conversion as Specified with DL	29	96	69	18	212
Number Portability Conversion as Specified	25	36	30	0	91
Loop Service with NP Conversion as Specified	31	64	39	0	134

HPC then identified for each Order's data elements whether the value had to be provided by Qwest (i.e., Qwest Provided column) or the CLEC (i.e., CLEC Provided column). Both the Qwest Provided and CLEC Provided columns account for data elements that are Required, Conditional, or Optional. The Other column indicates those data elements that are Not Required or Prohibited and therefore would not be expected to have a value. Table 4.23 lists the results of this step.

Table 4.23 - Number of Order Data Elements by Data Provider [LSOG 5]

Order	Qwest Provided	CLEC Provided	Other	Total
POTS Resale Conversion As Is	30	46	132	208
POTS Resale Conversion As Specified	60	134	51	212
POTS Resale New Install	27	142	43	212
UNE Loop Service Conversion As Specified	36	83	2	121
UNE Loop Service New Install	26	64	31	121
UNE-P New Install	29	140	43	212
UNE-P Conversion as Specified with DL	53	141	18	212
Number Portability Conversion as Specified	30	61	0	91
Loop Service with NP Conversion as Specified	37	97	0	134

Note: Data that is provided by the CLEC may be entered on a PreOrder transaction for validation purposes (for example service address). So even though a PreOrder data element may map to an Order element, the ultimate responsibility is incumbent upon the CLEC to obtain the initial data.

The next step in the analysis was to merge the results of the Data Provider analysis and the Conditionality analysis into one table. Table 4.24 lists the results of this merge.

Table 4.24 - Number of Order Data Elements by Conditionality and Data Provider [LSOG 5]

Order	Required		Conditional		Optional		Other	Total
	Qwest	CLEC	Qwest	CLEC	Qwest	CLEC		
POTS Resale Conversion As Is	6	13	16	12	8	21	132	208
POTS Resale Conversion As Specified	9	20	27	69	24	45	18	212
POTS Resale New Install	7	27	14	61	6	54	43	212
UNE Loop Service Conversion As Specified	9	21	19	33	8	29	2	121
UNE Loop Service New Install	8	22	12	21	6	21	31	121
UNE-P New Install	6	27	17	59	6	54	43	212
UNE-P Conversion as Specified with DL	9	20	25	71	19	50	18	212
Number Portability Conversion as Specified	6	19	16	20	8	22	0	91
Loop Service with NP Conversion as Specified	9	22	20	44	8	31	0	134

Note: The results presented in Table 4.24 include duplicate Order data elements that appear on an Order. These duplicates were identified and documented in Appendix L – Summary Spread Sheets – Duplicates.

The final step in the analysis was to map the PreOrder data elements to their respective Order data elements. **Note:** duplicate Order data elements were removed in this step. The results of these mappings are provided in Tables 4.25 through 4.33 located in Appendix V of this document.

5.0 Summary

This section summarizes the analysis that was performed and is presented in two parts. The first is the summary of the Qwest I-Charts Release 7.0 and LSOG 3 and the second is the summary of the Qwest I-Charts Release 9.0 and LSOG 5.

5.1 LSOG 3 Summary

HPC examined a CLEC's ability to use data elements on an Order, without manipulation, received from Qwest on the associated PreOrder responses (i.e., to use data elements, received from Qwest on the associated PreOrder responses, on an Order without manipulation) and has determined that:

- The Qwest PreOrder field length is often much larger than the Order field length (see Tables 4.7 through 4.15). If PreOrder transactions returned a value larger than the Order field would accept, some data manipulation would be required.
- All Order field types matched the PreOrder field types. This comparison ensured that if a field type on the Order was numeric, that the corresponding PreOrder field that maps to it was also the same type (i.e., if the Order field type is numeric, then the PreOrder field type should also be numeric or alphanumeric.) HPC did not observe any discrepancies.
- The Account Number field requires the CLEC to append a dash and the customer code value on "conversion as specified" and "conversion as is" Order activities (see Tables 4.7, 4.8, 4.10, 4.13, 4.14, and 4.15). The Customer Code (**CUSTCODE** CSRR-17) data element is returned on the Customer Service Record Query PreOrder transaction.
- The EDI CFA validation required that the following data element fields be combined on the Order to make the CFA data element field entry: CABNM (Cable Name) CFAR-12, CABTYP (Cable Type) CFAR-13, First Unit* CFAR-14, Last Unit* CFAR-15, LOCA (Location A) CFAR-16, and LOCZ (Location Z) CFAR-17. *First Unit and Last Unit is a range, the CLEC selects a number between the First Unit and Last Unit for the CFA. Table 5.1 depicts an example of the field values returned on the CFA validation query and the resulting CFA Order entry.

**Table 5.1 - EDI CFA Validation Response Field Entries
and Corresponding CFA Value [LSOG 3]**

Field Name	Value
CABNM	ALT01
CABTYP	26-NL
FIRST UNIT	284
LAST UNIT	296
LOCA	MESAAZGI
LOCZ	MESAAZGIHTZ

CFA =	ALT01 26-NL 290 MESAAZGI MESAAZGIHTZ
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In summary, HPC concludes that the data definitions (i.e., form, format, content, usage and meaning) between PreOrder and Order elements, excluding the exceptions noted above, do not require translation, or reconfiguration of the data elements when integrating PreOrder transactions into Order transactions. Therefore, HPC's assessment is that CLECs can utilize Qwest's EDI PreOrder transactions to submit an Order without data manipulation.

5.2 LSOG 5 Summary

HPC examined a CLEC's ability to use data elements on an Order, without manipulation, received from Qwest on the associated PreOrder responses (i.e., to use data elements, received from Qwest on the associated PreOrder responses, on an Order without manipulation.) and has determined that:

- The Qwest PreOrder field length, provided in the PreOrder Chapters (3-9, 13 & 14), is often much larger than the Order field length (see Tables 4.25 through 4.33). If PreOrder transactions returned a value larger than the Order field would accept, some data manipulation would be required. However in reviewing the Appendix A – Developer Worksheets, HPC observed that Qwest PreOrder field lengths are closely aligned to the Order field lengths with the exceptions summarized in Table 4.17 and details provided in Appendices M through U.
- Most Order field types matched the PreOrder field types. This comparison ensured that if a field type on the Order was numeric, that the corresponding PreOrder field that maps to it was also the same type (i.e., if the Order field type is numeric, then the PreOrder field type should also be numeric or alphanumeric.) HPC did observe some discrepancies between the PreOrder Chapters and the Appendix A – Developer Worksheets and/or the Order fields. For example, State was identified as being 2 alpha in Appendix A and ID 2/2 in Chapter 04 - Address Validation.
- The Account Number field requires the CLEC to append a dash and the customer code value on “conversion as specified” and “conversion as is” Order activities (see Tables 4.25, 4.26, 4.28, 4.31, 4.32, and 4.33). The Customer Code (**CUSTCODE** CSRR-18) data element is returned on the Customer Service Record Query PreOrder transaction.
- Qwest returns the Service Address fields for the Billing Section as concatenated STREET field on CSR (CSRR-62). If a separate Billing Address is required, then this concatenated Street (Address) field must be parsed into the appropriate Billing Address street fields on the LSR (EU-45a through EU-45g). Qwest does provide independent data for the following fields:
 - Room/Mail Stop (CSRR-64)
 - Floor (CSRR-63)
 - City (CSRR-65)
 - State (CSRR-66)
 - Zip (CSRR-67)
- The EDI CFA validation required that the following data element fields be combined on the Order to make the CFA data element field entry: CABNM (Cable Name) CFAR-12, CABTYP (Cable Type) CFAR-13, First Unit* CFAR-14, Last Unit* CFAR-15, LOCA (Location A) CFAR-16, and LOCZ (Location Z) CFAR-17. *First Unit and Last Unit is a range, the CLEC selects a number between the First Unit and Last Unit for the CFA. Table 5.2 depicts an example of the field values returned on the CFA validation query and the resulting CFA Order entry.

Table 5.2 - EDI CFA Validation Response Field Entries and Corresponding CFA Value [LSOG 5]

Field Name	Value
CABNM	ALT01
CABTYP	26-NL
FIRST UNIT	284
LAST UNIT	296
LOCA	MESAAZGI
LOCZ	MESAAZGIHTZ

CFA =	ALT01 26-NL 290 MESAAZGI MESAAZGIHTZ
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In summary, HPC concludes that the data definitions (i.e., form, format, content, usage and meaning) between PreOrder and Order elements, excluding the minor exceptions noted above, do not require translation, or reconfiguration of the data elements when integrating PreOrder transactions into Order transactions. HPC considers the exceptions to be minor, because a minimal amount of data manipulation is required for their integration into an Order. Therefore, HPC's assessment is that CLECs can utilize Qwest's EDI PreOrder transactions to submit an Order without data manipulation.

5.3 CSR to LSR Parsing Analysis

This section of the analysis addresses the ability of a CLEC to parse a Qwest EDI PreOrder transaction in the course of building an Order interface that would automate the population of a CSR response into an LSR.

According to Webster's New World Dictionary the definition of parsing is to break a sentence down giving the form and function of each part. HPC defines the parsing of a CSR response transaction as being able to translate the Qwest CSR response transactions (based on Qwest documentation), and use the specified data elements to automatically populate the appropriate Order (LSR) forms. This process includes being able to understand the Qwest business rules and documentation such that logical decisions can be made based on the type of CSR response that is received from Qwest. For example, a CLEC needs to know that a CSR transaction response that contains a multiple match or an error message should not be moved to the Order fields.

As noted in Table 4.17, HPC observed 41 issues with the documentation between the Customer Service Record Transaction Cycle I-Chart document and the Appendix A – PreOrder Developer Worksheets for Customer Service Record. These observations detailed in Tables 5.3 and 5.4, (Appendix M – Customer Service Record Transaction Cycle contained the detailed information for the CSRQ and CSRR transactions) list the observations that were made in the PreOrder analysis.

Table 5.3 - Customer Service Record Query (CSRQ) Observations [LSOG 5]

Customer Service Record Query Field	Observation
DTM*097* D/TSENT {CCYYMMDD}CSRQ-4 4 * D/TSENT {HHMM}CSRQ-4	<ul style="list-style-type: none"> In Appendix A, A/N is specified even though only numeric characters are valid. Time is specified as HHMM in Chapter 03 and HHMinMin in Appendix A. Appendix A also states time is in Military Time and Chapter 04 states time is based on a 24 hour clock time.
NX2*03* SASD CSRQ-16	Appendix A displays a data type of "a/n"; however, only lists alpha characters as a Valid Value.
NX2*40* SASS CSRQ-19	Appendix A displays a data type of "a/n"; however, only lists alpha characters as a Valid Value.
NX2*03* SASD CSRQ-16	Appendix A displays a data type of "a/n"; however, only lists alpha characters as a Valid Value.
NX2*40* SASS CSRQ-19	Appendix A displays a data type of "a/n"; however, only lists alpha characters as a Valid Value.
NX2*03* SASD CSRQ-46	Appendix A displays a data type of "a/n"; however, only lists alpha characters as a Valid Value.
NX2*40* SASS CSRQ-49	Appendix A displays a data type of "a/n"; however, only lists alpha characters as a Valid Value.
SI*TI*AF* AFT CSRQ-42	Appendix A displays a data type of "a/n"; however, only lists alpha characters as a Valid Value.
NX2*03* SASD CSRQ-75	Appendix A displays a data type of "a/n"; however, only lists alpha characters as a Valid Value.
NX2*40* SASS CSRQ-78	Appendix A displays a data type of "a/n"; however, only lists alpha characters as a Valid Value.
SI*TI*AF* AFT CSRQ-71	Appendix A displays a data type of "a/n"; however, only lists alpha characters as a Valid Value.

Table 5.4 - Customer Service Record Response (CSRR) Observations [LSOG 5]

Customer Service Record Response Field	Observation
REF*ACC* RESPONSE CSRR-11 * RESPONSE	Appendix A displays a data type of "a/n"; however, only lists alpha characters as a Valid Value.
DTM*097* D/TSENT {CCYYMMDD}CSRR-4 4 * D/TSENT {HHMM}CSRR-4	<ul style="list-style-type: none"> In Appendix A, A/N is specified even though only numeric characters are valid. Time is specified as HHMM in Chapter 03 and HHMinMin in Appendix A. Appendix A also states time is in Military Time and Chapter 04 states time is based on a 24 hour clock time.
AS STATIND CSRR-19	Appendix A displays a data type of "a/n"; however, only lists alpha fields as Valid Values.
SC SERVIND CSRR-14a	Appendix A states that this field indicates if the service being requested is identified by a telephone number or an ECCKT. However, the Valid Values are for telephone number or non-telephone number.
SI*TI*ER* ERRTYPE CSRR-130	Appendix A displays a data type of "a/n"; however, only lists alpha fields as Valid Values.
SI*TI*AS* STATIND CSRR-121	Appendix A displays a data type of "a/n"; however, only lists alpha fields as Valid Values.
N4** STATE CSRR-118	STATE CSRR-51 and CSRR-66 list an Appendix A data type of 2 a/n.
NX2*03* SASD CSRR-106	Appendix A displays a data type of "a/n"; however, only lists alpha characters as a Valid Value.
NX2*40* SASS CSRR-109	Appendix A displays a data type of "a/n"; however, only lists alpha characters as a Valid Value.
NX2*61* SASF CSRR-105	Appendix A shows SASF CSRR-41 with a field length of 5.
REF*IX* REFNUM CSRR-100 * REFNUM	Appendix A only shows a data type of "n" is acceptable, whereas Chapter 3 shows "AN" is acceptable.
NX2*03* LASD CSRR-30	Appendix A displays a data type of "a/n"; however, only lists alpha characters as a Valid Value.
NX2*40* LASS CSRR-33	Appendix A displays a data type of "a/n"; however, only lists alpha characters as a Valid Value.
N4** STATE CSRR-51	<ul style="list-style-type: none"> Appendix A lists acceptable data type of "a/n"; however two character state codes are only alpha. STATE CSRR-118 in Appendix A has a data type of 2 a. STATE CSRR-66 in Appendix A has a data type of 2 a/n.
NX2*03* SASD CSRR-42	Appendix A displays a data type of "a/n"; however, only lists alpha characters as a Valid Value.
NX2*61* SASF CSRR-41	Appendix A shows SASF CSRR-105 with a field length of 4.
NX2* LD1 CSRR-45a	Appendix A displays a data type of "a/n"; however, only lists alpha characters as a Valid Value.
NX2* LD2 CSRR-45c	Appendix A displays a data type of "a/n"; however, only lists alpha characters as a Valid Value.

Customer Service Record Response Field	Observation
NX2* LD3 CSRR-45e	Appendix A displays a data type of "a/n"; however, only lists alpha characters as a Valid Value.
MTX** LFIDDATA CSRR-56	V is an invalid field length.
MTX** FFIDDATA CSRR-59	V is an invalid field length.
N4** STATE CSRR-66	STATE CSRR-118 in Appendix A has a data type of 2 a. STATE CSRR-51 in Appendix A has a data type of 2 a/n.
MTX** FFIDDATA CSRR-73	V is an invalid field length.
MTX** FFIDDATA CSRR-83	V is an invalid field length.
* HEADDTL CSRR-86 ** MAJHD	V is an invalid field length.
MTX** FFIDDATA CSRR-89	V is an invalid field length.
MTX** FFIDDATA CSRR-98	V is an invalid field length.

Additional Findings:

- The Account Number field requires the CLEC to append a dash and the customer code value on "conversion as specified" and "conversion as is" Order activities. The Customer Code (**CUSTCODE** CSRR-18) data element is returned on the Customer Service Record Query PreOrder transaction.
- Qwest returns the Service Address fields for the Billing Section as concatenated STREET field on CSR (CSRR-62). If a separate Billing Address is required, then this concatenated Street (Address) field must be parsed into the appropriate Billing Address street fields on the LSR (EU-45a through EU-45g). Qwest does provide independent data for the following fields: Room/Mail Stop (CSRR-64), Floor (CSRR-63), City (CSRR-65) State (CSRR-66) and Zip CSRR-67.

HPC observed 41 CSR related issues (see Table 4.17). These issues can and should be discussed during regularly scheduled meetings between Qwest and the CLECs. (See the Qwest Implementation Guidelines – for Interconnect Mediated Access (IMA) – Version 9.0). It is HPC's experience that when issues, such as those noted in this section, or concerns about Qwest EDI documentation are communicated, Qwest responds to those issues/concerns in an effective and timely manner. HPC is convinced these problems associated with Qwest's EDI documentation are minimal, and can be overcome.

It is HPC's professional opinion, based upon its review of Qwest documentation, that a CSR to LSR parsing would be a very challenging and complex undertaking for a CLEC with an Information Technology team that was not experienced in EDI development. Other alternatives would be to contract the development of the EDI Interface through a Service Bureau or purchase a 3rd party solution from a vendor, such as Telcordia. There will be a number of issues that will have to be clarified by meetings with Qwest. However, a CLEC with the appropriate resources, funding, time and planning activities can build a CSR to LSR parsing interface.

6.0 Observations

This section presents HPC's observations in two parts. The first is the observations of the Qwest I-Charts Release 7.0 and LSOG 3 and the second is the observations of the Qwest I-Charts Release 9.0 and LSOG 5.

6.1 LSOG 3 Observations

On initial review it would appear that on average, 23.5% of the information on an order is being provided by a PreOrder transaction. Table 6.1 provides the detail information for this observation. The column descriptions for this table are:

- Order – the Order being analysed.
- Total Required & Conditional – the total number of Order data elements that have a conditionality of required or conditional.
- # PreOrder Matches (Required & Conditional) – the total number of Order data elements that have a conditionality of Required or Conditional and that had a matching PreOrder data element.
- %PreOrder Matches (Required & Conditional) – [# PreOrder Matches (Required & Conditional)] divided by [Total Required & Conditional].
- # Required & Conditional Fields Not Matched on PreOrder – [Total Required & Conditional] minus [# PreOrder Matches (Required & Conditional)].

Table 6.1 - Percent of PreOrder Matched Required/Conditional Data Elements [LSOG 3]

Order	Total Required & Conditional	# PreOrder Matches (Required & Conditional)	% PreOrder Matches (Required & Conditional)	# Required & Conditional Fields Not Matched on PreOrder
POTS Resale Conversion As Is	42	17	40.5%	25
POTS Resale Conversion As Specified	109	27	24.8%	82
POTS Resale New Install	93	15	16.2%	78
UNE Loop Service Conversion As Specified	73	19	26.0%	54
UNE Loop Service New Installation	54	10	18.5%	44
UNE-P New Install	94	15	16.0%	79
UNE-P Conversion As Specified with DL	110	27	24.5%	83
Number Portability Conversion As Specified	54	18	33.3%	36
Loop Service with NP Conversion as Specified	85	20	23.5%	65
Total	714	168	23.5%	546

However, upon further observation it shows that the majority of Order data elements that are not mapped to a PreOrder data element are elements whose value must be provided by the CLEC or End User. Appendices B through J provide the detail information for this observation.

HPC reviewed Qwest's PreOrder and Order compliance to LSOG 3 (**Note:** Qwest's I-Charts Release 7.0 operates on LSOG 3). OBF LSOG is the industry standard and is widely used as the basis for Order systems. HPC compared the PreOrder data elements that are returned in a Qwest PreOrder transaction to the PreOrder data elements defined in LSOG 3.

The observation can be made that, with the exception of the D/T Sent, TOS, BAN1, NAN, CONVIND, and NC & NCI data elements that are returned, Qwest is meeting the LSOG 3 industry standard. Table 6.2 provides the detail information to support this observation. In addition, Appendix L, Summary Spreadsheets, provides additional information to support this observation.

Table 6.2 - OBF LSOG 3 Defined Fields Returned by Qwest on PreOrder Transactions

Order	Required Fields	Conditional Fields	Optional Fields	# Required, Conditional & Optional Fields
POTS Resale New Install				
1 - # Order fields defined in LSOG 3 PreOrder transactions	6	6	7	19
Qwest fields returned on PreOrder transactions defined OG 3	4	6	7	17
LSOG 3 defined fields not returned on Qwest PreOrder transactions (1 - 2). See Table Notes below.	2	0	0	2
Qwest returned fields that are defined in LSOG 3 (2 / 1)	67%	100%	100%	89%
POTS Resale Conversion As Specified				
3 - # Order fields defined in LSOG 3 PreOrder transactions	6	5	7	18
Qwest fields returned on PreOrder transactions defined OG 3	4	5	7	16
LSOG 3 defined fields not returned on Qwest PreOrder transactions (3 - 4). See Table Notes below.	2	0	0	2
Qwest returned fields that are defined in LSOG 3 (4 / 3)	67%	100%	100%	89%
POTS Resale Conversion As Is				
5 - # Order fields defined in LSOG 3 PreOrder transactions	6	3	7	16
Qwest fields returned on PreOrder transactions defined OG 3	4	3	7	14

Order	Required Fields	Conditional Fields	Optional Fields	# Required, Conditional & Optional Fields
LSOG 3 defined fields not returned on Qwest PreOrder actions (5 - 6). See Table Notes below.	2	0	0	2
Qwest returned fields that are defined in LSOG 3 (6 / 5)	67%	100%	100%	88%
UNE-P New Install				
7 - # Order fields defined in LSOG 3 PreOrder transactions	6	6	7	19
Qwest fields returned on PreOrder transactions defined in LSOG 3	4	6	7	17
LSOG 3 defined fields not returned on Qwest PreOrder actions (7 - 8). See Table Notes below.	2	0	0	2
Qwest returned fields that are defined in LSOG 3 (8 / 7)	67%	100%	100%	89%
UNE-P Conversion As Specified with DL				
9 - # Order fields defined in LSOG 3 PreOrder transactions	6	5	7	18
# Qwest fields returned on PreOrder transactions defined in LSOG 3	4	5	7	16
LSOG 3 defined fields not returned on Qwest PreOrder actions (9 - 10). See Table Notes below.	2	0	0	2
Qwest returned fields that are defined in LSOG 3 (10 / 9)	67%	100%	100%	89%
UNE Loop Service New Install				
11 - # Order fields defined in LSOG 3 PreOrder transactions	8	3	7	18
# Qwest fields returned on PreOrder transactions defined in LSOG 3	4	3	7	14
LSOG 3 defined fields not returned on Qwest PreOrder actions (11 - 12). See Table Notes below.	4	0	0	4
Qwest returned fields that are defined in LSOG 3 (12 / 11)	50%	100%	100%	78%
UNE Loop Service Conversion As Specified				
13 - # Order fields defined in LSOG 3 PreOrder transactions	8	3	7	18

Order	Required Fields	Conditional Fields	Optional Fields	# Required, Conditional & Optional Fields
# Qwest fields returned on PreOrder transactions defined in LSOG 3	4	3	7	14
LSOG 3 defined fields not returned on Qwest PreOrder transactions (13 - 14). See Table Notes below.	4	0	0	4
Qwest returned fields that are defined in LSOG 3 (14 / 13)	50%	100%	100%	78%
Loop Service with NP Conversion as Specified				
15 - # Order fields defined in LSOG 3 PreOrder transactions	8	4	7	19
# Qwest fields returned on PreOrder transactions defined in LSOG 3	4	4	7	15
LSOG 3 defined fields not returned on Qwest PreOrder transactions (15 - 16). See Table Notes below.	4	0	0	4
Qwest returned fields that are defined in LSOG 3 (16 / 15)	50%	100%	100%	79%
Number Portability Conversion As Specified				
17 - # Order fields defined in LSOG 3 PreOrder transactions	7	3	7	17
# Qwest fields returned on PreOrder transactions defined in LSOG 3	5	3	7	15
LSOG 3 defined fields not returned on Qwest PreOrder transactions (17 - 18). See Table Notes below.	2	0	0	2
Qwest returned fields that are defined in LSOG 3 (18 / 17)	71%	100%	100%	88%

Table Notes:

- **Field - D/T SENT** – Qwest returns field but the date/time stamp returned in PreOrder is not the same as the date/time stamp that needs to be populated on the Order.
- **Field - TOS** – OBF guidelines state that this field is used only on a PreOrder Query and not a Response. Qwest uses this field on the Service Availability and Appointment Reservation Queries, but Qwest does not echo the information back on the Response. The CLEC must indicate the Type of Service (TOS) desired by the End User.
- **Field - BAN1** – Qwest added functionality in a later release, whereby the BAN1 information is provided in another Qwest system.
- **Field - NAN** – In a later release, Qwest added functionality whereby the next TN left on the Customer Service Record, that is not to be converted, will be assigned as the NAN, if the CLEC does not request a specific NAN on the service request.

- **Field – CONVIND** – Qwest added functionality whereby their FTS system will count the number of lines on the CSR and compare it to the number of lines on the Order to determine whether the Order is partial or full conversion. This field is no longer used and Qwest plans to remove it in a future release.
- **Field – NC & NCI** – OBF guidelines state that this field is used only on a PreOrder query and not a response. Qwest does not use this field as part of any PreOrder query. The CLEC is responsible for determining the appropriate Network Channel Code (NC) from the tech pub.
- HPC's observation is that to complete and successfully submit an Order, CLECs must obtain the data not provided in PreOrder transactions for the Qwest Required, Conditional, and Optional fields. This data can be obtained from the End User, by calling the Interconnect Service Center (ISC), searching through Qwest I-Charts and other related data.

HPC recommends that Qwest continue to follow the LSOG 3 guidelines.

Finally, HPC observed that Qwest is following the LSOG 3 guidelines and that the data definitions (i.e., form, format, content, usage and meaning) between PreOrder and Order elements, excluding the exceptions previously noted in the Summary section, do not require translation, or reconfiguration of the data elements when integrating PreOrder transactions into Order. Therefore, HPC's assessment is that CLECs can utilize Qwest's EDI PreOrder transactions to submit an Order without data manipulation.

6.2 LSOG 5 Observations

On initial review it would appear that on average, 29.03% of the information on an order is being provided by a PreOrder transaction. Table 6.3 provides the detail information for this observation. The column descriptions for this table are:

- **Order** – the Order being analysed.
- **Total Required & Conditional** – the total number of Order data elements that have a conditionality of required or conditional.
- **# PreOrder Matches (Required & Conditional)** – the total number of Order data elements that have a conditionality of Required or Conditional and that had a matching PreOrder data element.
- **%PreOrder Matches (Required & Conditional)** – [# PreOrder Matches (Required & Conditional)] divided by [Total Required & Conditional].
- **# Required & Conditional Fields Not Matched on PreOrder** – [Total Required & Conditional] minus [# PreOrder Matches (Required & Conditional)].

Table 6.3 - Percent of PreOrder Matched Required/Conditional Data Elements [LSOG 5]

Order	Total Required & Conditional	# PreOrder Matches (Required & Conditional)	% PreOrder Matches (Required & Conditional)	# Required & Conditional Fields Not Matched on PreOrder
POTS Resale Conversion As Is	46	22	47.8%	24
POTS Resale Conversion As Specified	115	33	28.7%	82
POTS Resale New Install	99	21	21.2%	78
UNE Loop Service Conversion As Specified	80	27	33.8%	53
UNE Loop Service New Installation	61	19	31.1%	42
UNE-P New Install	99	21	21.2%	80
UNE-P Conversion As Specified with DL	115	33	28.7%	84
Number Portability Conversion As Specified	60	22	36.7%	38
Loop Service with NP Conversion as Specified	93	29	31.2%	64
Total	768	223	29.03%	545

However, upon further observation it shows that the majority of Order data elements that are not mapped to a PreOrder data element are elements whose value must be provided by the CLEC or End User. Appendices B through J provide the detail information for this observation.

HPC reviewed Qwest's PreOrder and Order compliance to LSOG 5 (**Note:** Qwest's I-Charts Release 9.0 operates on LSOG 5). OBF LSOG is the industry standard and is widely used as the basis for Order systems. HPC compared the PreOrder data elements that are returned in a Qwest PreOrder transaction to the PreOrder data elements defined in LSOG 5.

The observation can be made that, with the exception of the D/TSENT, TOS, CONVIND, and NC & NCI data elements that are returned, Qwest is meeting the LSOG 5 industry standard. Table 6.4 provides the detail information to support this observation. In addition, Appendix L, Summary Spreadsheets, provides additional information to support this observation.

Table 6.4 - OBF LSOG 5 Defined Fields Returned by Qwest on PreOrder Transactions

Order	Required Fields	Conditional Fields	Optional Fields	# Required, Conditional & Optional Fields
POTS Resale New Install				
1 - # Order fields defined in LSOG 5 PreOrder transactions	7	13	5	25
Qwest fields returned on PreOrder transactions defined LSOG 5	5	12	4	21
LSOG 5 defined fields not returned on Qwest PreOrder transactions (1 - 2). See Table Notes below.	2	1	1	4
Qwest returned fields that are defined in LSOG 5 (2 / 1)	71.4%	92.3%	80%	84%
POTS Resale Conversion As Specified				
3 - # Order fields defined in LSOG 5 PreOrder transactions	6	15	5	26
Qwest fields returned on PreOrder transactions defined LSOG 5	4	14	4	22
LSOG 5 defined fields not returned on Qwest PreOrder transactions (3 - 4). See Table Notes below.	2	1	1	4
Qwest returned fields that are defined in LSOG 5 (4 / 3)	66.7%	93.3%	80%	84.6%
POTS Resale Conversion As Is				
5 - # Order fields defined in LSOG 5 PreOrder transactions	5	9	5	19
Qwest fields returned on PreOrder transactions defined LSOG 5	4	9	4	17
LSOG 5 defined fields not returned on Qwest PreOrder transactions (5 - 6). See Table Notes below.	1	0	1	2
Qwest returned fields that are defined in LSOG 5 (6 / 5)	80%	100%	80%	89.5%
UNE-P New Install				
7 - # Order fields defined in LSOG 5 PreOrder transactions	5	14	5	24
Qwest fields returned on PreOrder transactions defined LSOG 5	4	13	4	21

Order	Required Fields	Conditional Fields	Optional Fields	# Required, Conditional & Optional Fields
LSOG 5 defined fields not returned on Qwest PreOrder transactions (7 - 8). See Table Notes below.	1	1	1	3
Qwest returned fields that are defined in LSOG 5 (8 / 7)	80%	92.8%	80%	87.5%
UNE-P Conversion As Specified with DL				
9 - # Order fields defined in LSOG 5 PreOrder transactions	5	15	5	25
# Qwest fields returned on PreOrder transactions defined in LSOG 5	4	14	4	22
LSOG 5 defined fields not returned on Qwest PreOrder transactions (9 - 10). See Table Notes below.	1	1	1	3
Qwest returned fields that are defined in LSOG 5 (10 / 9)	80%	93.3%	80%	88%
UNE Loop Service New Install				
11 - # Order fields defined in LSOG 5 PreOrder transactions	6	10	5	21
# Qwest fields returned on PreOrder transactions defined in LSOG 5	5	10	4	19
LSOG 5 defined fields not returned on Qwest PreOrder transactions (11 - 12). See Table Notes below.	1	0	1	2
Qwest returned fields that are defined in LSOG 5 (12 / 11)	83.3%	100%	80%	90.5%
UNE Loop Service Conversion As Specified				
13 - # Order fields defined in LSOG 5 PreOrder transactions	5	15	5	25
# Qwest fields returned on PreOrder transactions defined in LSOG 5	4	15	4	23
LSOG 5 defined fields not returned on Qwest PreOrder transactions (13 - 14). See Table Notes below.	1	0	1	2
Qwest returned fields that are defined in LSOG 5 (14 / 13)	80%	100%	80%	92%
Loop Service with NP Conversion as Specified				
15 - # Order fields defined in LSOG 5 PreOrder transactions	5	16	5	26

Order	Required Fields	Conditional Fields	Optional Fields	# Required, Conditional & Optional Fields
# Qwest fields returned on PreOrder transactions defined in LSOG 5	4	16	4	24
LSOG 5 defined fields not returned on Qwest PreOrder transactions (15 - 16). See Table Notes below.	1	0	1	2
Qwest returned fields that are defined in LSOG 5 (16 / 24)	80%	100%	80%	92.3%
Number Portability Conversion As Specified				
17 - # Order fields defined in LSOG 5 PreOrder transactions	6	12	5	23
# Qwest fields returned on PreOrder transactions defined in LSOG 5	5	12	4	21
LSOG 5 defined fields not returned on Qwest PreOrder transactions (17 - 18). See Table Notes below.	1	0	1	2
Qwest returned fields that are defined in LSOG 5 (18 / 23)	83.3%	100%	80%	91.3%

Table Notes:

- **Field - D/T SENT** – Qwest returns field but the date/time stamp returned in PreOrder is not the same as the date/time stamp that needs to be populated on the Order.
- **Field - TOS** – OBF guidelines state that this field is used only on a PreOrder Query and not a Response. Qwest uses this field on the Service Availability and Appointment Reservation Queries, but Qwest does not echo the information back on the Response. The CLEC must indicate the Type of Service (TOS) desired by the End User.
- **Field - BAN1** – Qwest has added functionality whereby the BAN1 information is provided in another Qwest system.
- **Field - NAN** – Qwest has added functionality whereby the next TN left on the CSR, that is not being converted, will be assigned as the NAN, if the CLEC does not request a specific NAN on the service request.
- **Field - CONVIND** – Qwest added functionality whereby their FTS system will count the number of lines on the CSR and compare it to the number of lines on the Order to determine whether the Order is partial or full conversion. This field is no longer used and Qwest plans to remove it in a future release. SQ
- **Field - NC & NCI** – The NC field is on the Appointment Availability Query and both the NC and NCI fields are on the Loop Qualification Query. However, neither is returned on the corresponding responses. Consequently, the CLEC is responsible for determining the appropriate Network Channel Code (NC) from the technical publications.
- HPC's observation is that to complete and successfully submit an Order, CLECs must obtain the data not provided in PreOrder transactions for the Qwest Required, Conditional, and Optional fields. This data can be obtained from the End User, by calling the Interconnect Service Center (ISC), searching through Qwest I-Charts and other related data.



PreOrder to Order Integration Report

Finally, HPC observed that Qwest is following the LSOG 5 guidelines and that the data definitions (i.e., form, format, content, usage and meaning) between PreOrder and Order elements, excluding the minor exceptions previously noted, do not require translation or reconfiguration of the data elements when integrating PreOrder transactions into Order. HPC considers the exceptions to be minor, because a minimal amount of data manipulation is required for their parsing into an Order. Therefore, HPC's assessment is that CLECs can utilize Qwest's EDI PreOrder transactions to submit an Order without data manipulation.

7.0 LSOG 3 to LSOG 5 Comparison Summary

An LSR is comprised of fields that must be provided by Qwest and by the CLEC/End User. The OBF standards define, on average, less than 20% of the PreOrder fields that can be mapped to an LSR. OBF provides telecommunications industry standard guidelines that companies like Qwest should follow. Overall, Qwest provides 84% to 92.3%, per product, of the OBF defined PreOrder fields in LSOG 5.

Typically the CLEC/End User will provide the majority of LSR entries, because they are specific to the customer or the services/products that the customer has requested. Therefore, the relatively low percentages presented in this section are not necessarily an indication of poor compliance to OBF standards by Qwest.

With this in mind, the comparative results show that the percentage of PreOrder response matches to both required and conditional data Order elements have increased from LSOG 3 to LSOG 5. The percent of PreOrder fields, to total LSR fields, provided by Qwest for LSOG 3 was 23.5%, whereas the percent obtained from the LSOG 5 analysis was 29.0%. Although that is an overall increase of 5.5%, it is a relative increase of 23.4%. HPC believes this is a positive trend that Qwest should continue to follow in future releases.

Some mention should also be made regarding the changes noted in the Table Notes between LSOG 3 and LSOG 5. The usage of three PreOrder data element fields (D/T SENT, TOS, and CONVIND) in LSOG 3 has remained the same in LSOG 5. The functionality of three other PreOrder fields (BAN1, NAN, and NC & NCI) has been improved from LSOG 3 to LSOG 5, due to implemented enhancements.

In HPC's opinion, Qwest's PreOrder to Order data element integration functionality is adherent to the LSOG 5 guidelines and the data definitions (i.e., form, format, content, usage, and meaning). The PreOrder and Order elements, excluding the minor exceptions previously noted, do not require translation or reconfiguration when integrating PreOrder transactions into Order. HPC considers the exceptions to be minor, because a minimal amount of data manipulation is required for their integration into an Order. Therefore, it is HPC's opinion that CLECs can utilize Qwest's EDI PreOrder transactions to automatically populate an Order without data manipulation.